

LISTING OF THE CLAIMS:

1-25. (canceled)

26. (new) A composition comprising a dendrimer, said dendrimer comprising an acetylated generation 5 (G5) polyamideamine (PAMAM) or polypropylamine (POPAM) dendrimer, said acetylated dendrimer comprising one or more functional groups, wherein at least one of said functional groups comprises a therapeutic agent.

27. (new) The composition of Claim 26, wherein said one or more functional groups are selected from the group consisting of a therapeutic agent, a targeting agent, an imaging agent, or a biological monitoring agent.

28. (new) The composition of Claim 26, wherein said acetylated G5 dendrimer is conjugated to said functional group.

29. (new) The composition of Claim 26, wherein said therapeutic agent comprises a chemotherapeutic agent.

30. (new) The composition of Claim 26, wherein said therapeutic agent is protected with a protecting group selected from photo-labile, radio-labile, and enzyme-labile protecting groups.

31. (new) The composition of Claim 29, wherein said chemotherapeutic agent is selected from platinum complex, verapamil, podophyllotoxin, carboplatin, procarbazine, mechlorethamine, cyclophosphamide, camptothecin, ifosfamide, melphalan, chlorambucil, bisulfan, nitrosurea, adriamycin, dactinomycin, daunorubicin, doxorubicin, bleomycin, plicomycin, mitomycin, etoposide, tamoxifen, taxol, transplatinum, 5-fluorouracil, vincristin, vinblastin, and methotrexate.

32. (new) The composition of Claim 29, wherein said platinum complex comprises cisplatin.

33. (new) The composition of Claim 27, wherein said targeting agent is an antibody.

34. (new) The composition of Claim 27, wherein said targeting agent is a receptor ligand.

35. (new) The composition of Claim 27, wherein said targeting agent is folic acid.

36. (new) The composition of Claim 27, wherein said imaging agent comprises a fluorescent agent.

37. (new) The composition of Claim 36, wherein said fluorescent agent is fluorescein isothiocyanate.

38. (new) The composition of Claim 27, wherein said monitoring agent is capable of measuring an amount of apoptosis caused by said therapeutic agent.

39. (new) The composition of Claim 26, further comprising a second dendrimer conjugated to said acetylated dendrimer.

40. (new) The composition of Claim 39, wherein said second dendrimer is conjugated to said acetylated dendrimer via a covalent bond.

41. (new) The composition of Claim 39, wherein said second dendrimer is conjugated to said acetylated dendrimer via hybridization of nucleic acid linkers attached to each of said second dendrimer and said acetylated dendrimer.

42. (new) The composition of Claim 41, wherein a duplex formed from hybridization of said linkers comprises a cleavage site.

43. (new) The composition of Claim 42, wherein said cleavage site comprises a nuclease recognition site.

44. (new) The composition of Claim 43, wherein said nuclease recognition site comprises a restriction endonuclease recognition site.

45. (new) The composition of Claim 39, wherein said second dendrimer comprises an acetylated generation 5 (G5) polyamideamine (PAMAM) or polypropylamine (POPAM) dendrimer.

46. (new) The composition of Claim 39, wherein said second dendrimer comprises one or more functional groups selected from the group consisting of a therapeutic agent, a targeting agent, an imaging agent, or a biological monitoring agent.